

Serial No. 09/941,438

In the Claims:

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1. (currently amended) A method for processing dermal tissue for implantation into a subject, said method comprising the steps of:

a. removing the epidermal layer of said dermal tissue to produce de-epidermalized tissue;

b. incubating said de-epidermalized tissue in at least one processing solution to remove cells from said de-epidermalized tissue, thereby producing a decellularized tissue matrix;

c. treating said decellularized tissue matrix to cause a reduction in size and an increase in surface area; and

d. exposing said decellularized tissue matrix to an acylating agent, wherein the ratio of said acylating agent to wet tissue weight is about 0.1% to about 0.3% <sup>about 1 part acylating agent per 1000 parts tissue weight</sup>, thereby producing a dispersed tissue matrix.

2. Canceled (incorporated into claim 1).

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3. (original) The method of claim 2, wherein said treating comprises cryomilling said decellularized tissue matrix.

4. (original) The method of claim 1, further comprising contacting said de-epidermalized tissue with a viral inactivating agent, before, after, or during step (b).

5. (original) The method of claim 1, wherein said tissue is mammalian.

6. (original) The method of claim 4, wherein said tissue is human.

7. (original) The method of claim 1, wherein said acylating agent is glutaric anhydride or succinic anhydride.